

# **METHOD OF ESTIMATING ELASTIC AND COMPOSITIONAL PARAMETERS FROM SEISMIC AND ECHO-ACOUSTIC DATA**

## **ABSTRACT OF THE DISCLOSURE**

A method for determining from measured reflection data on a plurality of trace positions, a plurality of subsurface parameters. The method includes the steps of: preprocessing the measured reflection data into a plurality of partial or full stacks; specifying one or more initial subsurface parameters defining an initial subsurface model; specifying a wavelet or wavelet field for each of the partial or full stacks of the measured reflection data; calculating synthetic reflection data based on the specified wavelets and the initial subsurface parameters; optimizing an objective function, including the weighted difference between measured reflection data and synthetic reflection data for a plurality of trace positions simultaneously; and outputting the optimized subsurface parameters. A device for implementing this method is also included.